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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/760,583	01/16/2001	Wilhelmus Diepstraten	21-10-8	4304

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EXAMINER

MACE, BRAD THOMAS

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 07/28/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/760,583	Applicant(s) DIEPSTRATEN ET AL.	
	Examiner Brad T. Mace	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The word "comprising" should be restated as "including".

3. The disclosure is objected to because of the following informalities: please remove the foreign priority clause on lines 3-4 of pg. 1. Appropriate correction is required.
4. The disclosure is objected to because of the following informalities:
"synchronisation" should be "synchronization" on line 31 of pg. 5. "behaviour" should be

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"behavior" on line 30 of pg. 6. The term "frames" or "data frames" should be restated as "smaller packets" or "mini-packets" for example throughout the specification.

Appropriate correction is required.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a) because they fail to show wording (labels) describing the components in each figure as set forth in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

6. Claims 1, 3-5, 9, 11, and 13 are objected to because of the following informalities: the term "frames" or "data frames" should be restated as "smaller packets" or "mini-packets" for example throughout the claims listed above. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,696,903 (Mahany) in view of U.S. Patent No. 5,912,921 (Warren et al.).

Regarding claims 1, 11, 13:

9. Mahany discloses a method (and device that transmits and receives, see Figure 1c, reference "MCD" transmits to reference "P" and receives from reference "P", so that "P" can communicate with the network) for communicating at least one packet of data with a predetermined packet size (col. 15, lines 28-38, a maximum packet length of 256 bytes (predetermined packet size) over a communication channel from a transmitter (device) to a receiver (second device) (see Figure 1c, references "MCD" and "P" and the communication channel between). Mahany discloses fragmenting (thus by means of a processor) the at least one packet into a number of frames (fragments) with a

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predetermined size for transmitting (col. 19, lines 1-4, maximum fragment payload of 256 bytes (predetermined size)). Manhany discloses automatically selecting a combination of frame size and one of the common set of data rates (thus by means of a processor) (col. 22, lines 59-61, to determine whether to transmit a fragment at the high rate or the low rate) such that the transmission time of each of the frames is limited to a predefined value (col. 22, lines 61-65, high and low rate maximum fragment lengths are the same duration (predefined value)). Manhany discloses transmitting each frame (fragment) over the communications channel by the transmitter (thus by means of a processor) (col. 19, lines 4-8, fragments may be any length up the maximum, eliminating the inefficiency that results when messages that are not integer multiples of the fragment length are transmitted (by the transmitter) in systems that employ fixed sizes). However, Manhany does not disclose expressly a memory for storing a common set of data rates.

Warren et al. discloses a transmitter having a memory connected to a processor (see Figure 2, references 31 and 35) for storing a common set of data rates (see Figure 2, reference 11 (network master is a transceiver, thus has a transmitter), and reference 35 (memory), and col. 4, lines 33-39).

A person of ordinary skill in the art would have been motivated to employ Warren et al. in Manhany in order to obtain the memory that stores a set of data rates. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Warren et al. with Manhany (collectively Manhany-Warren et al.) to obtain the invention as specified in claim 1. The

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suggestion/motivation to do so would have been to store the set of data rates in the transmitter so as to allow for quick data rate changeover in fallback situations where only particular data rates (as the ones stored in memory) are to be used. (Also, this method can be taken and executed in terms of a computer program).

Regarding claim 2:

10. Manhany further discloses that the predefined value of transmission time is determined by characteristics of interference in the communication channel (col. 25, lines 28-31, the duration may be reduced to compensate for frequency of interference bursts).

Regarding claim 3:

11. Manhany further discloses that the combination of frame size and data rate is changed dependent on the condition of the communication channel (col. 22, lines 57-61, the poll recipient evaluates signal quality (condition of the communication channel), Received Signal Strength Indicator, to determine whether to transmit a fragment at the high rate or the low rate).

12. Claims 4-9, 12, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manhany-Warren et al. as applied to claim 3 above, and further in view of the admitted prior art.

Regarding claim 4:

13. Manhany-Warren et al. discloses substantially all the claimed modified invention as set forth above. However, Manhany-Warren et al. does not disclose expressly that

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the condition of the communication channel is determined based on success of transmission of each of the frames.

The admitted prior art discloses that in normal operation according to the IEEE 802.11 standard, a retransmission will be attempted when no acknowledgement is received from the receiver for sending the data frame or packet. After a number of retries, it is assumed that the communication channel is unsuited for transmission (lines 15-24 of pg. 10).

A person of ordinary skill in the art would have been motivated to employ the admitted prior art in Manhany-Warren et al. in order to obtain a way of determining the condition of a communication channel. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine the admitted prior art with Manhany-Warren et al. (collectively Manhany-Warren et al.-admitted prior art) to obtain the invention as specified in claims 1, 2, 3, and 4. The suggestion/motivation to do so would have been to use the transmission of the frames to evaluate whether or not a communication channel is suitable to be transmitted on.

Regarding claim 5:

14. Manhany further discloses that the success of transmission of each of the frames is determined after a predetermined number of retries (col. 19, lines 50-54, Control Point device may suspend attempts to communicate with the device based upon a retry limit (predetermined number of retries)).

Regarding claim 6:

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15. Manhany further discloses that the predetermined number of retries is at least two (col. 19, lines 50-54, after a fragment is transmitted more than once (at least two) without successful reception, attempts to communicate with the device may be suspended).

Regarding claims 7, 8:

16. Manhany further discloses that the predefined value of the transmission time is 4.5 msec (or 1.5 msec) (col. 22, lines 61-65, high and low rate maximum fragment lengths are the same duration, thus the duration is specified to any transmission time that yields the same duration of high and low rate maximum fragment lengths, a chosen transmission time of 4.5 msec or 1.5 msec can therefore be used).

Regarding claim 9:

17. Manhany further discloses that the frame size is one of a set of frame sizes comprising 1500 bytes, 750 bytes, 500 bytes, 256 bytes and 128 bytes (col. 22, lines 61-63, fragment lengths are selected such that high and low rate maximum fragment lengths are the same duration, thus the fragment size is specified to any size that yields the same duration of high and low rate maximum fragment lengths, a chosen byte size of 1500, 750, 500, 256, or 128 can therefore be used).

Regarding claims 12, 14, 15:

18. Manhany further discloses a processor (Control Point device) in which the processor (Control Point device) is arranged to execute the method according to claim 6 (col. 19, lines 45-54, in correspondence with claims 1, 3-6 explanations as set forth above and in view of the modified invention as set forth in claim 11). (The

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correspondence to claim 2 (that was not previously mentioned above), Manhany states if for some reason a fragment is not successfully received (such as interference), the length field would remain fixed at the previous value, prolonging reservation of the channel for the duration (transmission time) of the message). (Thus processor is arranged to execute the method according to claims 1-6). (Also, this method can be taken and executed in terms of a computer program, which is executed on a data carrier (computer)).

19. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manhany-Warren et al.-Ito et al.-admitted prior art as applied to claim 6 above, and further in view of Andren et al.

Regarding claim 10:

20. Manhany-Warren et al.-admitted prior art discloses substantially all the claimed modified invention as set forth above. However, Manhany-Warren et al.-admitted prior art fails to disclose expressly that the common set of data rates comprises data rates of 11 Mbit/s, 5.5 Mbit/s, 2 Mbit/s, and 1 Mbit/s.

Andren et al. discloses a transceiver in accordance with the IEEE 802.11 standard (col. 6, lines 9-11) and can achieve the standard data rates of 1, 2, 5.5, and 11 Mbit/s (col. 10, lines 11-21).

A person of ordinary skill in the art would have been motivated to employ Andren et al. in Manhany-Warren et al.-admitted prior art to obtain a transmitter that can support data rates of 1, 2, 5.5, and 11 Mbit/s. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention

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pertains to combine Andren et al. with Manhany-Warren et al.-admitted prior art (collectively Manhany-Warren et al.-admitted prior art-Andren et al.) to obtain the invention as specified in claims 1, 2, 3, 4, 5, 6, and 10. The suggestion/motivation to do so would have been to use data rates specified by the IEEE 802.11 standards.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

*Chen et al. discloses a burst duration assignment based on fading fluctuation and mobility in wireless communication systems.

*Kim et al. discloses a common channel communication device and method supporting various data rates in a mobile communication system

Yano et al. discloses a data communication apparatus and method

*Bing discloses a measured performance of the IEEE 802.11 Wireless LAN.

*Ito discloses an information transmission reception system and information transmission reception method, and information receiver used therein

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brad T. Mace whose telephone number is (703)-306-5454. The examiner can normally be reached on M-F, with the exception of every other Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703)-305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btm
Brad T. Mace
Examiner
Art Unit 2663

btm
July 14, 2004



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